

**What is claimed is:**

1           1.     An apparatus for connecting at least one function-extending module, which is  
2 detachably inserted into a module rack, to a base module capable of reproducing audio/video (AV)  
3 data to be communicated between said at least one function-extending module and the base module,  
4 the apparatus comprising:

5           a detecting unit for detecting the installation of said at least one function-extending module  
6 in the module rack and for generating a detection signal;

7           a switching unit for connecting the base module to said at least one function-extending  
8 module; and

9           a control unit for controlling the switching unit so that said at least one function-extending  
10 module is connected to the base module in a daisy-chain fashion according to the detection signal  
11 from the detecting unit.

12           2.     The apparatus of claim 1, wherein the base module comprises an IEEE 1394 port and  
13 said at least one function-extending module comprises first and second IEEE 1394 ports; and

14           wherein the switching unit comprises:

15           a first switching part for selectively connecting the IEEE 1394 port included in the base  
16 module to one of the first IEEE 1394 ports of said at least one function-extending module; and

17           a second switching part for selectively connecting one of the second IEEE 1394 ports of said

at least one function-extending module to one of the IEEE 1394 ports of any other said at least one function-extending module.

3. The apparatus of claim 2, wherein the detecting unit sends the detection signal to the control unit, the detection signal indicating whether a corresponding function-extending module is inserted into the module rack; and

wherein the first switching part selectively connects a port provided in the base module to one of the first IEEE 1394 ports of said at least one function-extending module in response to a control signal generated by the control unit.

4. The apparatus of claim 3, wherein the second switching part comprises  $n$  switching devices, each corresponding to a given function-extending module, and wherein each said switching device comprises a common port and  $n$  selection ports, each corresponding to said given function-extending module; and

wherein the common port of an  $i$ th switching device, where  $i$  is an integer from 1 to  $n$ , is connected to the second IEEE 1394 port of the corresponding function-extending modules, and wherein other  $n-1$  selection ports, excluding the  $i$ th port, are each connected to the first IEEE 1394 ports of said given function-extending module.

5. The apparatus of claim 4, wherein the switching device connects one of the selection

ports to the common port in response to another control signal generated by the control unit.

6. The apparatus of claim 1, wherein said at least one function-extending module comprises a plurality of function-extending modules, and wherein said switching unit establishes interconnections between respective function-extending modules.

7. A method for connecting at least one function-extending module, which is detachably inserted into the module rack, to a base module capable of reproducing audio/video (AV) data to be communicated, the method comprising the steps of:

(a) detecting whether said at least one function-extending module is inserted into the module rack; and

(b) connecting the detected said at least one function-extending module in a daisy-chain fashion with regard to the base module.

8. The method of claim 7, wherein step (b) comprises:

(b11) checking for presence of a previously installed function-extending module; and

(b12) connecting the base module to said at least one function-extending module when the previously installed function-extending module is not present.

9. The method of claim 7, wherein step (b) comprises:

(b21) checking for presence of a previously installed function-extending module; and

(b22) connecting the previously installed function-extending module to a newly installed function-extending module and detachably connecting the newly installed function-extending module to the base module when only one previously installed function-extending module is present.

10. The method of claim 7, wherein step (b) comprises:

(b31) checking for presence of previously installed function-extending modules; and

(b32) connecting a newly installed function-extending module to a function-extending module which constitutes a last node of a daisy chain of the previously installed function-extending modules when a number of the previously installed function-extending modules is at least two, and connecting the newly installed function-extending module to the base module.

11. The method of claim 7, wherein step (b) further comprises connecting said detected at lease one function-extending module to an installed function-extending module in the daisy-chain fashion.

12. A recording medium having program codes that connect a function-extending module, which is detachably inserted into the module rack, to a base module capable of reproducing audio/video (AV) data to be communicated, the medium comprising:

a first program code for detecting whether the function-extending module is inserted into the

5 module rack; and

6 a second program code for connecting the function-extending module to a previously  
7 installed function-extending module in a daisy-chain fashion with regard to the base module when  
8 the function-extending module is detected as being inserted into the module rack.

1 13. The recording medium of claim 12, wherein the second program code comprises:

2 a first program code portion for confirming presence of the previously installed function-  
3 extending module; and

4 a second program code portion for connecting the base module to a newly installed function-  
extending module when the previously installed function-extending module is not present.

14. The recording medium of claim 12, wherein the second program code comprises:

5 a first program code portion for confirming presence of the previously installed function-  
extending module; and

6 a second program code portion for connecting the previously installed function-extending  
7 module to a newly installed function-extending module when there is only one previously installed  
function-extending module, and detachably connecting the newly installed function-extending  
module to the base module.

1 15. The recording medium of claim 12, wherein the second program code comprises:

2 a first program code portion for confirming presence of the previously installed function-  
3 extending module; and

4 a second program code portion for connecting a newly installed function-extending module  
5 to a function-extending module that constitutes a last node of a daisy chain of the previously  
6 installed function-extending module when a number of previously installed function extending  
7 modules is two, and for detachably connecting the newly installed function-extending module to the  
8 base module.

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